



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

H.A

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,306	03/24/2004	Hiroshi Tanaka	00862.023511	3829

5514 7590 08/24/2006

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

AKANBI, ISIAKA O

ART UNIT PAPER NUMBER

2877

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/807,306	<b>Applicant(s)</b> TANAKA, HIROSHI	
	<b>Examiner</b> Isiaka O. Akanbi	<b>Art Unit</b> 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12 May 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement file 12 May 2004 has been entered and reference considered by the examiner.

### ***Drawings***

The examiner approves the drawings filed 24 March 2004.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as reciting the limitation " a plurality of the first marks " in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 2877

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6949755. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method claims in Patent 755 also provide the means for apparatus (the means claims of 755 provide the limitation of the 10807306). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. The claims of the applications correspond to each other as follows:

10/807306	6,949,755
1	1
2	2
3	3
4	4
5	5
6	7
7	6,7
8	11
9	11
10	8
11	9
12	10
13	7,8
14	11
15	12,13
16	12,13

The difference between the present application and the Patent 755 is that the present application claimed a unit which selects a second mark different from the target mark as a new target mark based on the position of the first mark and the feature while the patent 755 claimed a unit which detects a position of target mark based on the position of the first mark and the feature. The patent 755 claimed plurality of marks (i.e. second mark) that would anticipate the claims of the present application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (5,249,016).

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka. The reference of Tanaka teaches of apparatus/method, which detects a position of a target mark included in an object comprising a unit (CU) which senses an image of the object (WF), a unit (OE) which extracts a first mark (pre-alignment marks)(WAMR/WAML) and feature (WMR/WML) of a region outside of the first mark in the image and a unit (CU) which selects a second mark (WAMR/WAML)(a plurality of marks formed so that a target mark is recognized) and a unit (CM)(col. 2, line 15-65)(col. 3, line 63-col. 5, line 41)(fig. 1), however the reference of Tanaka is silent regarding a second mark different from the target mark as a new target mark based on the position of the first mark and the feature. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a second mark that is different from the target mark as a new target mark based on the position of the first mark and the feature for the purpose of providing alignment precision.

As to claims 2-9, Tanaka discloses everything claimed, as applied to claim 1 above, comprising a plurality of marks (WAMR/WAML) formed so that a target mark is recognized (col. 2, line 15-65)(col. 3, line 63-col. 5, line 41)(figs. 4,5,7 and 9). The reference of Tanaka is silent regarding the feature corresponds to an auxiliary mark. It would have been obvious to one having ordinary skill in the art at the time of invention to provide extracted features that correspond to an auxiliary mark, which is included in the object and associated with the desired marks for the purpose of providing a more accurate alignment.

As to claims 10-12, Tanaka discloses everything claimed, as applied to claim 1 above, in addition Tanaka discloses wherein the object (w) is a substrate on which a device is to be formed, a stage unit (XYS) which positions the substrate and a unit (CU) which controls

positioning of the substrate by said stage unit based on the position of the target mark (fig. 1)(col. 4, line 11-69)(col. 5, line 9-41).

As to claim 13, Tanaka discloses everything claimed, as applied to claim 1 above, in addition Tanaka discloses wherein the object (W) is a first substrate on which a device is to be formed (fig. 1)(col. 5, line 9-41) and teaches plurality of marks formed so that a target mark is recognized as applied above, It would have been obvious to one having ordinary skill in the art at the time of invention to provide a mark corresponding to the second mark that is initially selected as the target mark with respect to a subsequent substrate in a lot including the first substrate for the purpose of providing a more accurate measurement and alignment.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka. The reference of Tanaka teaches of apparatus of the features of claim 14, comprising a plurality of marks formed so that a target marks is recognized, a stage unit (XYS) which positions the substrate, a unit (CU) which senses an image of the substrate (W), a unit (OE) which extracts/selects feature of a region, a unit which controls said stage unit (XYS) so as to position the substrate based on the position of the target mark (fig. 1)(col. 4, line 40-67)(col. 2, line 15-65)(col. 3, line 63-col. 5, line 41), however the reference of Tanaka is silent regarding a second mark different from the target mark as a new target mark based on the position of the first mark and the feature. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a second mark that is different from the target mark as a new target mark based on the position of the first mark and the feature for the purpose of providing a more accurate measurement and alignment.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka. The reference of Tanaka teaches of a method of the features of claim 16, comprising sensing (CU) an image of a substrate, wherein a plurality of marks (WAMR and WAML) included in the object can be included in the image, extracting (OE) feature of a region, however the reference of Tanaka is silent regarding selecting a second mark different from the target mark as a new target mark based on the position of the first mark and the feature and transferring a pattern concerning the device to the substrate based on the position of the target mark. It would have been obvious to one having ordinary skill in the art at the time of invention to provide and select a second mark that is different from the target mark as a new target mark based on the position of the first mark and the feature for the purpose of providing a more accurate measurement and alignment. Additionally, it would have been obvious to one having ordinary skill in the art at the

Art Unit: 2877

time of invention to transfer a pattern concerning the device to the substrate based on the position of the target mark for the purpose of providing a more accurate alignment.

#### **Additional Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art apparatus/method which detects a position of a target mark included in an object that may anticipate or obviate the claims of the applicant's invention.

#### **Conclusion**

#### **Fax/Telephone Information**

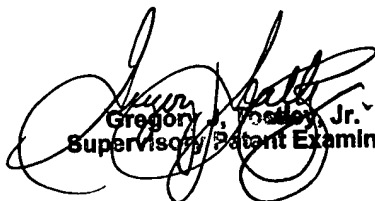
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

August 10, 2006

  
Gregory J. Toatley, Jr.  
Supervisor, Patent Examiner

Gregory J. Toatley, Jr.  
Supervisor, Patent Examiner